Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision	)	CG 10-145

COMMENTS OF SPRINT NEXTEL CORPORATION

Sprint Nextel Corporation ("Sprint") submit's the following comments in response to the Consumer and Government Affairs Bureau and the Wireless Telecommunications Bureau's Public Notice seeking comment on accessible mobile phone options for people who are bind, deaf-blind, or have low vision.[1] Sprint has worked and continues to work with handset manufacturers and software developers to ensure that Sprint's blind and visually-impaired customers have options when purchasing a new handset for use on Sprint's CDMA and iDEN networks. As the trend toward "open" operating systems like Android increases, Sprint expects to see even more innovative accessibility features and capabilities that will benefit wireless consumers that are blind, deaf-blind or have low vision. Indeed, as described below, such innovate capabilities are already available on handsets sold by Sprint.

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[1] *See*, Public Notice, *Wireless Telecommunications Bureau and Consumer & Government Affairs Bureau Seek Comment on Accessible Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision*, DA 10-1324 (July 19, 2010) ("Public Notice").

I. EVOLUTION OF THE MOBILE DEVICE MARKETPLACE WILL ENHANCE INNOVATION

Similar to the way in which personal computers ("PCs") evolved from "out-of-the-box" computers with preloaded software to today's dynamic, highly customizable PCs, mobile devices are on a similar evolutionary path. Indeed, mobile devices share many PC-like features including open source operating systems and web browsers. And mobile device processing speed and power as well as memory – especially in smartphones – have improved dramatically in recent years.

This evolution towards PC-like devices has changed the mobile device ecosystem. The roles of service providers like Sprint and the device manufacturers have changed in an ecosystem in which the operating system ("OS") and software/application developers play a prominent and ever-increasing role in determining what is possible on mobile devices. Sprint embraces its role as a facilitator of innovation and sees great progress being made.

In several weeks, Sprint will host its Tenth Annual Open Developer Conference.[2] At these conferences, Sprint meets with application developers and invites handset vendors, operating system vendors and platform enablers. The primary purpose of the meeting is to assist the application developers in bringing their ideas to market on Sprint's networks. Sprint also provides application developers with tools through which they can access Sprint's operational and network application programming interfaces ("APIs") including geo-location, messaging and presence. One of these tools is a "Developers Sandbox" which allows app developers to "play" with Sprint's APIs at no

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[2] *See*, http://developer.sprint.com/site/global/home/p_home.jsp

cost. Such an environment encourages creativity and experimentation and the potential to develop the next great app, including those for the disabled.

II. ACCESSIBILITY FEATURES AND CAPABILITIES ON DEVICES SOLD BY SPRINT

A. Feature Phones

Many "feature phones"[3] sold by Sprint have accessibility features that enhance the usability for customers with vision impairments. These features include:

- Voice activated dialing (*e.g.,* name dial and digit dial)
- Adjustable screen contrast
- Adjustable font size
- One touch dialing
- Tactile and tonal feedback from keys
- Assignable ring tones to identify incoming callers
- Tactile identification of the "5" key for keypad navigation
- Distinctive key shapes and alignment

Over the years, feature phones have becoming increasingly accessible particularly as text-to-speech (TTS) capabilities have improved. TTS is particularly important because the user interaction with mobile phones is often dependent on information displayed on the phone's screen. Sprint sells several phones with enhanced TTS software. As an example, the LG Rumor and Lotus series of phones offers several features that are appealing to many blind and visually-impaired users including:

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[3] From a Sprint perspective, it sells one of two types of handsets: feature phones and smartphones. Feature phones are less feature-rich and less "PC-like" in comparison to smartphones. Feature phones are generally intended for voice and text use; whereas, smartphones are intended for a rich data experience including web browsing.

- Voice Guide: The Voice Guide feature converts much of the menu and sub-menus from text-to-speech (*i.e.,* "Talking Menu") and allows the user to change settings. It will also read text messages.

- Alpha and Numeric Key Echo: the phone will repeat back to the user either an alpha or numeric key. This allows a blind/visually-impaired user to enter Contact information and respond to text messages. For example, press the "H" key and phone voices "H" or press "8" key and phone says "Eight."

- Talking Caller ID and Missed Alerts.

- Voice dialing including digit dial (e.g., "call 555-1212") and name dial with natural commands such as "Call Mom's Mobile."

- Phone Status: Time, date, battery level, service coverage and signal strength will be read to the user.

- Adjustable Text Size (Small, Medium, Large).

- Slide-out QWERTY keyboard: These phones are more user-friendly for blind/visually-impaired user as the keypad is larger and more usable especially for text messaging and emailing.

Sprint also recommends the Motorola i580 and i880 for customers who prefer the Nextel iDEN network. These phones have high-quality speech output for a variety of phone functions including Phone Status, Call History and Caller ID. These phones also have TTS for limited portions of the phone Menu. The phones also include Key Echo, Name Dial, and adjustable text and digit size. Similarly, Sprint recommends its PowerSource phones (ic502, ic602 and ic902) for customers with vision loss who enjoy the WalkieTalkie feature in iDEN phones and the voice and data of CDMA. These phones incorporate portions of the TTS software found in the Motorola i580 and i880.

B. Smartphones

Smartphones, because of their PC-like speed, power and memory, have enormous potential for delivering improved device accessibility to people who are blind, deaf-blind or have low vision. Some of this potential has been realized with screen reading software and there are exciting new accessibility features on the horizon.

1. Screen Reading Software

Perhaps the most advanced, in terms of being readily available and highly-accessible, application for smartphones is screen reading software. Once the user downloads the screen reading software to his or her smartphone, the information on the display is converted from text-to-speech *via* a synthesized voice. And, for users that are blind or deaf-blind, for some screen reading software, the screen contents can be converted to Braille if the mobile phone is connected to a Braille device.[4]

Screen reading software can be utilized to make a smartphone device highly accessible. One of the premiere screen reading software firms with whom Sprint has worked is Code Factory. Code Factory works with service providers and handset manufacturers to produce software that works well on a number of smartphones. As described on its web site, its software can "perform many tasks on the phone, including the following:

- Make and receive calls
- Read and write SMS messages
- Manage your contacts and call lists
- Review the numbers entered in the dialer screen, and check the caller ID on incoming calls

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[4] *See*, http://www.codefactory.es/en/products.asp?id=316

- Browse the Internet
- Send and receive emails
- Manage the calendar to schedule appointments and keep track of them using alarms and reminders
- Create text and voice notes
- Perform calculations
- Listen to music and podcasts
- Configure phone settings, profiles and ringtones, speed dial keys and voice tags."[5]

In addition to screen reading software, several software developers, including Code Factory, also offer screen magnification software which is particularly useful for users with low vision.

2. Apps for Smartphones

As discussed above, the mobile device ecosystem has undergone a major transformation with the advent of "open source" operating systems (OS). As the first carrier to join the Open Handset Alliance (which developed the Android operating system), Sprint is a strong supporter of this new model of device development. Open source platforms allow virtually anyone to create a software application for any device running a particular operating system. This "openness" fosters creativity and innovation, and it is working as seen by the explosion of apps and app stores that offer thousands of unique applications.

Sprint customers who are blind or who have low vision are already benefiting from this "openness" and creativity as there are many apps available for free or at low cost. These apps range from screen reading apps (talking caller ID and text message

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[5] *See*, http://www.codefactory.es/en/products.asp?id=316

readout), magnification apps, image reading apps, to touch screen apps. Sprint is currently working with equipment manufacturers and developers to understand how best to package these apps for its customers with disabilities in order to make these apps easier to find and easier to use.

Sprint recognizes the work of the Google Android accessibility team and developers like the IDEAL Group whose Apps4Android project is producing a host of accessibility-centric apps. Per the Android team's accessibility web site:

> All Android phones that have Android version 1.6 or later have built-in support for speech output and accessibility, completely free. While not all applications are accessible, Android is quite customizable. By downloading the right software and configuring the phone properly, a visually-impaired user can access just about any function, including making phone calls, text messaging, email, web browsing, and downloading and using many of the thousands of apps on the Android market.[6]

Sprint is currently working with equipment manufacturers, OS vendors and developers to understand how best to package these apps for its customers with disabilities in order to make these apps easier to find and easier to use.

III. THE IMPORTANCE OF CONSUMER EDUCATION

There are an increasing array of accessible devices and accessibility solutions available to people who are blind, deaf-blind or who have low vision. Sprint understands, however, that many customers with disabilities are unfamiliar with the solutions that are available to them. While Sprint currently has useful information on its sprint.com/accessibility web page (and CTIA has AccessWireless.org), Sprint is

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[6] *See*, http://eyes-free.googlecode.com/svn/trunk/documentation/android_access/index.html

committed to exploring ways in which to shrink this gap in information. In this fast-paced environment in which new apps are released hourly, Sprint has begun to canvass the available accessibility solutions with the end goal of providing consumers an easy-to-find and easy-to-use forum for accessibility information. In addition, Sprint is working with vendors and developers to understand other ways to package information for consumers in a user-friendly manner. Sprint is also seeking feedback from customers and consumer groups on the best way in which to connect customers to wireless accessibility solutions.

Sprint believes the Federal Communications Commission ("Commission") can play an important role in facilitating consumer education about wireless accessibility to consumers who are blind, deaf-blind or who have low vision. Sprint encourages the Commission to convene a workshop or similar forum to create a dialogue among stakeholders for two purposes. First, such a dialogue will help facilitate the sharing of information about existing and forthcoming accessible devices and software solutions. Second, such a dialogue will help determine the best way in which to disseminate this information to consumers who are blind, deaf-blind or who have low vision.

IV. CONCLUSION

Sprint believes that there are existing solutions on the market today and that the new open device ecosystem promises to deliver even more innovative and useful accessibility solutions. Sprint looks forward to working with the Bureaus and other stakeholders on this important matter.

Respectfully submitted,

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